

## Nomenclatural notes on Solifugae, Amblypygi, Uropygi and Araneae (Arachnida)

Mark S. Harvey

Department of Terrestrial Invertebrates, Western Australian Museum,  
Francis Street, Perth, Western Australia 6000, Australia

**Abstract** – The following replacement names are provided for several homonyms newly detected in the Solifugae: *Mumaella*, nom. nov. for *Gluviella* Lawrence, 1956; *Galeodes dahlahensis*, nom. nov. for *Galeodellus lindbergi* Roewer, 1960; *Galeodes darendensis*, nom. nov. for *Galeodes atroluteus* Roewer, 1961; *Galeodes dellacaveae*, nom. nov. for *Galeodila somalica* Caporiacco, 1944; *Galeodes gromovi*, nom. nov. for *Galeodes birulae* Roewer, 1941; *Galeodes krausi*, nom. nov. for *Galeodes roeweri* Kraus, 1959; *Galeodes lawrencei* nom. nov. for *Galeodellus bicolor* Lawrence, 1954; *Galeodes levyi*, nom. nov. for *Galeodes dorsalis* Roewer, 1934; *Galeodes mauryi*, nom. nov. for *Galeodila unicolor* Lawrence, 1956; *Galeodes sarpolensis*, nom. nov. for *Galeodellus parvus* Roewer, 1960; *Galeodes tangkharzarenensis*, nom. nov. for *Galeodila afghana* Roewer, 1960; *Galeodes turki*, nom. nov. for *Galeodes fuscus* Turk, 1947; *Solpuga chelicornis carlkochi*, nom. nov. for *Solpuga chelicornis* var. *rufescens* Hewitt, 1919; *Solpugema whartoni*, nom. nov. for *Solpuga orangica* Lawrence, 1942. Numerous new generic combinations are proposed for species whose genus has been previously synonymized. *Datames magna* Hancock, 1888 is proposed as the type species of *Arenothierus* Brookhart and Muma, which is placed as a junior synonym of *Eremorhax* Roewer. The type species of *Paragaleodes* Kraepelin, 1899 is newly designated as *Galeodes scalaris* C.L. Koch, 1842, and *Zombis* Simon, 1882 is treated as a valid genus and removed from the synonymy of *Paragaleodes* Kraepelin, 1899. The name *Eremobates legalis*, nom. nov., is proposed for the Mexican species previously known as *E. geniculatus* (Simon). The Mesozoic amblypygid genus *Protophrynus* Petrunkevitch, 1913 is replaced with *Sorellophrynus*. *Simonoonops* is proposed for the spider genus *Eusimonia* Dumitrescu and Georgescu, 1987 (Oonopidae) which is a junior homonym of *Eusimonia* Kraepelin, 1899. The spider subfamily Sternodinae is replaced with Sternodinae, nom. nov.

### INTRODUCTION

Whilst compiling data for a catalogue of some of the smaller arachnid orders (Harvey, unpublished data), a number of previously unrecognized nomenclatural problems were detected which require resolution. These include the provision of replacement names for newly detected homonyms at both the generic and specific level, and the transfer of many species to different genera due to the synonymy of the genus in which they were previously placed. Other nomenclatural problems are resolved, including the provision of a type species for *Paragaleodes*.

#### Order Solifugae

##### Family Ammotrechidae

##### Genus *Lelongia* Mello-Leitão

#### Remarks

The solifuge genus *Lelongia* Mello-Leitão, 1938a is a junior homonym of the mammal name *Caviodon*

(*Lelongia*) Kraglievich, 1930. The homonymy has little effect on solifuge nomenclature as *Lelongia* Mello-Leitão is currently considered a junior synonym of *Procleobis* Pocock, 1899, along with *Saronomoides* Mello-Leitão, 1938b and *Patagonolpuga* Mello-Leitão, 1938b (Maury, 1977).

#### Family Daesiidae

##### Genus *Biton* Karsch

#### Remarks

The synonymy of *Daesia* Karsch, 1880 with *Biton* Karsch, 1880 by Simon (1882), which has been supported by most subsequent authors, necessitates some new combinations which to my knowledge have not been previously formally transferred from *Daesia* to *Biton*: *Biton fallax* (Borelli, 1925), comb. nov., *B. planirostris* (Birula, 1941), comb. nov., *B. rossicus* (Birula, 1905a), comb. nov., *B. turkestanus* (Roewer, 1933), comb. nov., *B. tunetanus algeriensis* (Kraepelin, 1900), comb. nov. and *B. villiersi* (Vachon, 1950), comb. nov.

Birula (1936) placed *Bitonissus* Roewer, 1933 as a subgenus of *Daesia*, but in fact the valid generic name should be *Biton*. I here transfer the two species currently referred to *Bitonissus* to *Biton* (*Bitonissus*): *Biton* (*Bitonissus*) *schelkownikovi* Birula, 1936, comb. nov. and *B.* (*B.*) *xerxes* (Roewer), comb. nov.

#### Genus *Blossia* Simon

##### Remarks

The synonymy of *Blossiola* Roewer, 1933 with *Blossia* Simon, 1880 by Wharton (1981) requires the transfer of several species to the latter genus, many of which have not been previously formally placed in *Blossia*:

*Blossia aegyptica* (Roewer, 1933), comb. nov., *B. anatolica* (Roewer, 1941), comb. nov., *B. angolensis* (Lawrence, 1960), comb. nov., *B. arabica* (Roewer, 1933), comb. nov., *B. ebneri* (Roewer, 1933), comb. nov., *B. falcifera brachygnatha* (Lawrence, 1935a), comb. nov., *B. falcifera longicornis* (Lawrence, 1935a), comb. nov., *B. falcifera namibensis* (Lawrence, 1972), comb. nov., *B. fradei* (Lawrence, 1960), comb. nov., *B. gluvioides* (Roewer, 1933), comb. nov., *B. maroccana* (Roewer, 1933), comb. nov., *B. nigripalpis* (Roewer, 1933), comb. nov., *B. nigripalpis agriope* (Delle Cave and Simonetta, 1971), comb. nov., *B. obsti* (Roewer, 1933), comb. nov., *B. occidentalis* (Roewer, 1933), comb. nov., *B. omeri* (Levy and Shulov, 1964), comb. nov., *B. parva* (Roewer, 1933), comb. nov., *B. singularis* (Lawrence, 1965), comb. nov., *B. sulcichelis* (Roewer, 1941), comb. nov. and *B. tosclii* (Caporiacco, 1949), comb. nov.

#### Genus *Gluviella* Lawrence and *Mumaella*, nom. nov.

##### Remarks

*Gluviella* Lawrence, 1956 is a junior homonym of another solifuge genus, *Gluviella* Caporiacco, 1948, and is here replaced with *Mumaella*, nom. nov. The sole species attributed to *Gluviella* Lawrence, *G. robusta* Lawrence, 1956 from Afghanistan, is here transferred to *Mumaella*: *Mumaella robusta* (Lawrence, 1956), comb. nov.

##### Etymology

The generic name honours the late Martin H. Muma (1916–1989) who made many significant contributions to the taxonomy and biology of solifuges. It is feminine in gender.

#### Genus *Hemiblossia* Kraepelin

##### Remarks

The synonymy of *Parablossia* Roewer, 1933 with *Hemiblossia* Kraepelin, 1899 by Wharton (1981)

requires the transfer of *P. tana* Roewer, 1933 to *Hemiblossia*, resulting in a new combination: *H. tana* (Roewer, 1933), comb. nov.

#### Family Eremobatidae

#### Genera *Eremorhax* Roewer, *Arenotherus* Brookhart and Muma, and *Eremopus* Roewer

##### Remarks

Roewer (1934) described numerous new eremobatid genera from the Americas, including *Eremorhax* Roewer with the type and only species, *Datames magna* Hancock, 1888. Although the types of this species from Laredo, Texas, are apparently lost (Muma, 1951, 1970), Roewer (1934) had access to five specimens, two males and three females, from Texas that he identified as *E. magnus*. The genus *Eremorhax* was later enlarged by Muma (1951, 1970) with the synonymy of *Eremopus* Roewer, 1934 (type species *Eremopus montezuma* Roewer, 1934 by original designation), *Eremocosta* Roewer, 1934 (type species *Eremocosta gigas* Roewer, 1934 by original designation), and *Eremacantha* Roewer, 1934 (type species *Eremacantha robusta* Roewer, 1934 by original designation). *Eremorhax* was made the type genus of Eremorhaxinae Roewer, 1934, although this subfamily was later synonymized under Eremobatinae Kraepelin by Muma (1951).

Brookhart and Muma (1987) discussed the identity of the species described as *E. magnus* (Hancock, 1888) by Roewer (1934), concluding that it was not conspecific with the species described and illustrated by Hancock (1888) and Muma (1951). Rather, they considered it a representative of the genus *Eremobates* Banks, but did not speculate any further on its identity. They then placed *Eremorhax* Roewer as a junior synonym of *Eremobates* Banks, 1900, and described a new genus, *Arenotherus* Brookhart and Muma, 1987 for *Datames magna* Hancock, 1888 and several other species. Although they consistently referred to the new genus as accommodating those species previously placed in the *Eremorhax magnus* group of Muma (1951), they did not specify a type species, in contravention of Article 13(b) of the International Code of Zoological Nomenclature, 3<sup>rd</sup> edition. The remaining species previously placed in *Eremorhax* were transferred to *Eremopus* by Muma (1989).

The lack of a type designation for *Arenotherus* was clearly a *lapsus* by Brookhart and Muma (1987), and I hereby designate *Datames magna* Hancock, 1888 as type species (new designation), as they so obviously intended.

In addition, when Brookhart and Muma (1987) discovered that Roewer (1934) had misidentified the type species when describing the genus *Eremorhax*, they were required by Article 70(b) of the International Code of Zoological Nomenclature

then in effect (3<sup>rd</sup> edition) to request the Commission to resolve the case. Article 70.3 of the 4<sup>th</sup> edition of the Code (International Commission on Zoological Nomenclature, 1999) gives authors the power to designate as type species that species which best serves stability and universality – either the nominal species previously cited as type species, regardless of misidentification, or the species actually involved which was wrongly named in the type fixation – without application to the Commission. Designation of the nominal species previously cited as the type species would render *Arenotherus* Brookhart and Muma (1987) as a junior synonym of *Eremorhax*. Designation of the species actually involved would render the misidentified specimens available to Roewer (1934) as representing the type species. The identity of these specimens is unclear and my attempts to locate the material have proved fruitless – Roewer (1934) did not state from which institution they were borrowed, and they were not part of Roewer's collection now lodged in Naturmuseum Senckenburg, Frankfurt (Zilch, 1946). However, Brookhart and Muma (1987) did state (p. 1) that Roewer's description fitted a species of *Eremobates* but without access to these specimens it will be difficult to determine their identity.

In the interests of stability, I here propose that the first option is the best solution and I here designate *Datames magna* Hancock, 1888 as the type species of *Eremorhax*, regardless of the misidentification made by Roewer (1934). This automatically places *Arenotherus* as a junior objective synonym of *Eremorhax* Roewer, 1934 (syn. nov.). The following species are here referred to *Eremorhax*:

*Eremorhax arenus* (Brookhart and Muma, 1987), comb. nov., *E. joshui* (Brookhart and Muma, 1987), comb. nov., *E. latus* Muma, 1951, *E. magnellus* (Brookhart and Muma, 1987), comb. nov., *E. magnus* (Hancock, 1888), comb. nov., *E. mumai* Brookhart, 1972, *E. pimanus* (Brookhart and Muma, 1987), comb. nov., *E. puebloensis* Brookhart, 1965, *E. pulcher* Muma, 1963 and *E. tuttlei* (Brookhart and Muma, 1987), comb. nov.

In addition, *Eremopus* Roewer, 1934 is here found to be a junior homonym of the copepod genus *Eremopus* Brady, 1910. However, a replacement name is not needed for Roewer's name because *Eremopus* currently has two junior synonyms, *Eremocosta* Roewer, 1934 and *Eremacantha* Roewer, 1934 (Muma, 1951, 1970), of which *Eremocosta* is here selected as the valid name. The type species of *Eremocosta*, *E. gigas* Roewer, is well defined and the holotype is an adult male lodged in Naturmuseum Senckenburg, Frankfurt, Germany (Muma, 1970), whereas the holotype of the type species of the other synonym, *Eremacantha*, *E. robusta* Roewer, is an immature specimen (Muma, 1970) whose specific identity may never be known with certainty.

*Gluvia nigrimanus* Pocock, 1895 was originally described from a specimen "probably from Meshed, Afghanistan" – which probably represents Mashhad, Iran – but this locality was doubted by Muma (1970), as no member of the Eremobatidae is known from outside of the New World. After examining the male holotype lodged in the Natural History Museum, London (BMNH), Muma (1970) treated this species as a synonym of *Eremorhax magnus*, but Brookhart and Muma (1987) removed it to the "striatus species-group", which is here included in the genus *Eremocosta*.

The following species are here placed in *Eremocosta*:

*Eremocosta acuitlapanensis* (Vázquez and Gaviño-Rojas, 2000), *E. bajaensis* (Muma, 1986), comb. nov., *E. calexicensis* (Muma, 1951), comb. nov., *E. formidabilis* (Simon, 1879), comb. nov., *E. fusca* (Muma, 1986), comb. nov., *E. gigas* Roewer, 1934, *E. gigasella* (Muma, 1970), comb. nov., *E. montezuma* (Roewer, 1934), comb. nov., *E. nigrimana* (Pocock, 1895), comb. nov., *E. robusta* (Roewer, 1934), comb. nov., *E. spinipalpis* (Kraepelin, 1899), comb. nov., *E. striata* (Putnam, 1883), comb. nov. and *E. titania* (Muma, 1951), comb. nov.

Simon (1879) redescribed *Gluvia geniculata* C.L. Koch, 1842 under the name *Datames geniculatus* (C.L. Koch), based upon a female in MNHN from Mexico. Roewer (1934) recognized that this specimen was misidentified and utilised the name *Eremocosta geniculata* (Simon). This species was considered valid by Muma (1970) who reexamined the holotype and transferred it to the genus *Eremobates*. Unfortunately, Roewer's action contravenes Article 49 of the International Code of Zoological Nomenclature. I hereby provide the replacement name *Eremobates legalis*, nom. nov.

#### Etymology

The specific epithet refers to the use of the International Code of Zoological Nomenclature to resolve this problem (*legalis*, Latin, according to law).

#### Family Galeodidae

##### Genus *Galeodes* Olivier

#### Remarks

The synonymy of *Galeodarus* Roewer, 1934, *Galeodellus* Roewer, 1934, *Galeodenna* Roewer, 1934, *Galeodessus* Roewer, 1934, *Galeodibus* Roewer, 1934, *Galeodila* Roewer, 1934 and *Galeodora* Roewer, 1934 with *Galeodes* Olivier, 1791 by Turk (1960) requires the formal transfer of numerous species to *Galeodes*:

*Galeodes adamsi* (Turk, 1947), comb. nov., *G. ater* (Roewer, 1960), comb. nov., *G. atroluteus* (Roewer, 1960), comb. nov., *G. atrospinatus* (Roewer, 1941),



comb. nov., *G. belutschistanus* (Roewer, 1934), comb. nov., *G. bengalicus* (Roewer, 1934), comb. nov., *G. clenogaster* (Roewer, 1934), comb. nov., *G. cursor* (Roewer, 1934), comb. nov., *G. dekanicus* (Roewer, 1934), comb. nov., *G. distinctus* (Roewer, 1934), comb. nov., *G. excelsius* (Lawrence, 1956), comb. nov., *G. fessanus* (Roewer, 1934), comb. nov., *G. flavivittatus* (Roewer, 1934), comb. nov., *G. fremitans* (Roewer, 1934), comb. nov., *G. gravelyi* (Roewer, 1934), comb. nov., *G. inermis* (Caporiacco, 1941), comb. nov., *G. insidiator* (Roewer, 1934), comb. nov., *G. interjectus* (Roewer, 1960), comb. nov., *G. intermedius* (Frade, 1948), comb. nov., *G. limitatus* (Roewer, 1960), comb. nov., *G. luteipalpis* (Roewer, 1960), comb. nov., *G. melanopalpis* (Roewer, 1934), comb. nov., *G. mosconibronzii* (Caporiacco, 1937), comb. nov., *G. notatus* (Roewer, 1960), comb. nov., *G. philippovi* (Birula, 1941), comb. nov., *G. pugnator* (Roewer, 1934), comb. nov., *G. pusillus* (Roewer, 1934), comb. nov., *G. rufogriseus* (Roewer, 1960), comb. nov., *G. spectabilis* (Roewer, 1934), comb. nov., *G. striatipalpis* (Roewer, 1960), comb. nov., *G. tarabulus* (Roewer, 1934), comb. nov., *G. taurus* (Roewer, 1934), comb. nov., *G. testaceus* (Roewer, 1960), comb. nov., *G. timbuktus* (Roewer, 1934), comb. nov., *G. timbuktus brunneipalpis* (Roewer, 1941), comb. nov., *G. trichotichnus* (Roewer, 1934), comb. nov., *G. trinkleri* (Roewer, 1934), comb. nov., *G. tripolitanus* (Roewer, 1934), comb. nov., *G. tuxeni* (Lawrence, 1956), comb. nov., *G. versicolor* (Lawrence, 1956), comb. nov. and *G. vittatus* (Roewer, 1941), comb. nov.

In addition, Turk's synonymy has created a number of junior secondary homonyms, a salutary lesson to all taxonomists to avoid using identical species-group names in closely related genera. The merit of Turk's synonymies are readily apparent, although future taxonomic work may reveal that one or more of Roewer's galeodid genera are valid for reasons other than those presented by Roewer. If these genera are ever removed from synonymy, then Article 59.4 of the International Code of Zoological Nomenclature (International Commission on Zoological Nomenclature, 1999) ensures that the original name should be revalidated. In addition, I have detected several cases of primary homonymy, which are here resolved.

*Galeodellus lindbergi* Roewer, 1960 is a junior secondary homonym of *Galeodes lindbergi* Roewer, 1960 and is replaced with *Galeodes dahlahensis*, nom. nov.

#### Etymology

This species, which is known only from the type

locality in Afghanistan, is named after one of the two towns mentioned by Roewer (1960).

*Galeodes atroluteus* Roewer, 1961 is a junior secondary homonym of *Galeodellus atroluteus* (Roewer, 1960) and is replaced with *Galeodes darendensis*, nom. nov.

#### Etymology

Named for the type locality, Darende, situated in Anatolia, Turkey.

*Galeodila somalica* Caporiacco, 1944 is a junior secondary homonym of *Galeodes somalicus* Roewer, 1934 and is replaced with *Galeodes dellacaveae*, nom. nov.

#### Etymology

This species, which is known only from the type locality Mogadiscio, Somalia, is named for Dr Laura Della Cave, in recognition of her research on solifuges and other arachnids.

*Galeodes birulae* Roewer, 1941 is a junior primary homonym of *Galeodes birulae* Hirst, 1912 and is replaced with *Galeodes gromovi*, nom. nov.

#### Etymology

This species, which has been found in Azerbaijan, Iraq and Turkey, is named for Dr Alexander V. Gromov, in appreciation of his research on solifuges.

*Galeodes roeweri* Kraus, 1959 is a junior primary homonym of *Galeodes roeweri* Turk, 1948 and is replaced with *Galeodes krausi*, nom. nov.

#### Etymology

This Iranian species is named for Prof. Dr Otto Kraus<sup>1</sup> in recognition of his work on solifuges and other arachnids.

*Galeodellus bicolor* Lawrence, 1954 is a junior secondary homonym of *Galeodes bicolor* Roewer, 1934 and is replaced with *Galeodes lawrencei*, nom. nov.

#### Etymology

This species, which is known only from Basrah, Iraq, is named for the late Reginald F. Lawrence (1897–1987) in honour of his contributions to arachnology.

<sup>1</sup>In accordance with Appendix A of the International Code of Zoological Nomenclature (International Commission on Zoological Nomenclature, 1999), Dr Kraus was contacted to elucidate whether he wished to provide the replacement name, to which he demurred.

*Galeodes dorsalis* Roewer, 1934 is a junior primary homonym of *Galeodes dorsalis* Latreille, 1817 and is replaced with *Galeodes levyi*, **nom. nov.**

#### Etymology

This species, which is found in Israel, Saudi Arabia and Syria, is named for Dr Gershom Levy, in appreciation of his research on solifuges.

*Galeodila unicolor* Lawrence, 1956 is a junior secondary homonym of *Galeodes (Paragaleodes) unicolor* Birula, 1905b and is replaced with *Galeodes mauryi*, **nom. nov.**

#### Etymology

This species, which is only known from two specimens collected in Afghanistan, is named for the late Dr Emilio A. Maury, in appreciation of his contributions to arachnology.

*Galeodellus parvus* Roewer, 1960 is a junior secondary homonym of *Galeodes parvus* Roewer, 1934 and is replaced with *Galeodes sarpolensis*, **nom. nov.**

#### Etymology

This species, which is known only from Sar-Pol, Afghanistan, is named for this locality.

*Galeodila afghana* Roewer, 1960 is a junior secondary homonym of *Galeodes afghanus* Pocock, 1895 and is replaced with *Galeodes tangkharzarenensis*, **nom. nov.**

#### Etymology

Named for the type locality, Darreh-Khordou near Tang-Kharzar, Afghanistan.

*Galeodes fuscus* Turk, 1947 is a junior primary homonym of *Galeodes caspius fuscus* Birula, 1890. and is replaced with *Galeodes turki*, **nom. nov.**

#### Etymology

This species, which is only known from the type collection made in Maharashtra State, India, is named for the late F.A. Turk, in appreciation of his research on solifuges.

Olivier, 1791, later authors including Birula (1938) and Turk (1960) revalidated the name and provided a more comprehensive diagnosis. However, Kraepelin (1899) did not nominate a type species and to my knowledge none has ever been designated, thus leaving the genus in a state of taxonomic limbo. Related to this problem is the status of *Zombis* Simon (1882) described for the sole species *Z. pusiola* Simon, 1882 from Israel. Kraepelin (1901) tentatively synonymized *Z. pusiola* with *Paragaleodes scalaris* (C.L. Koch, 1842), which places *Zombis* as a potential senior synonym of *Paragaleodes* if the type species of both taxa are considered to be congeneric. Kraepelin (1899) included several species in *Paragaleodes* and all but *Galeodes barbarus* Lucas, 1849 is currently included in the genus.

If *G. barbarus* is designated as type species of *Paragaleodes*, then this generic name will become a synonym of *Galeodes* as currently defined, and *Zombis* becomes available for those species currently in *Paragaleodes*. However, if one of the other species originally included in *Paragaleodes* by Kraepelin (1899) is selected as the type species, then *Zombis* will have priority over *Paragaleodes* whenever the selected type species and *Z. pusiola* are deemed to be congeneric. I am extremely reluctant to replace *Paragaleodes* with *Zombis* without a more detailed review of the taxonomy of galeodid genera, and note that Kraepelin (1901) only tentatively synonymized *Z. pusiola* with *P. scalaris*, so the true taxonomic status of *Z. pusiola* is still unknown. Therefore, I propose the following solution:

I hereby designate *Galeodes scalaris* C.L. Koch, 1842 (new designation) as the type species of *Paragaleodes*, and I disregard Kraepelin's synonymy of *Z. pusiola* with *P. scalaris*, allowing *Zombis* to stand as a monotypic genus until the necessary revisionary work is completed to more fully understand the identity of the names involved. If any future work upholds Kraepelin's (1901) decision, the case should probably be submitted to the International Commission on Zoological Nomenclature to enable the retention of the better known *Paragaleodes*.

In addition to this problem, *Galeodes (Paragaleodes) unicolor* Birula, 1905b has never been formally placed in *Paragaleodes*: *Paragaleodes unicolor* (Birula, 1905b), **comb. nov.**

### Genera *Paragaleodes* Kraepelin and *Zombis* Simon

#### Remarks

Although Roewer (1934) treated *Paragaleodes* Kraepelin (1899) as a synonym of *Galeodes*

### Family Gylippidae

#### Genus *Gylippus* Simon

#### Remarks

Although *Anoplogylippus* was treated as a valid genus by Roewer (1933, 1960), Birula (1913) and

Gromov and Kopdykbaev (1994) regard it as a subgenus of *Gylippus*. Thus, *Anoplogylippus oculatus* Roewer, 1960 is here transferred to *Gylippus* (*Anoplogylippus*): *Gylippus* (*Anoplogylippus*) *oculatus* (Roewer, 1960), comb. nov.

#### Family Karschiidae

##### Genus *Eusimonia* Kraepelin

#### Remarks

The synonymy of *Barrella* Hirst, 1910 with *Eusimonia* Kraepelin, 1899 was first proposed by Birula (1938), but the type species of *Barrella*, *B. walsinghami* Hirst, 1910 has never been formally transferred to *Eusimonia*: *Eusimonia walsinghami* (Hirst, 1910), comb. nov.

##### Genus *Rhinippus* Werner

#### Remarks

The homonymy between the solifuge genus *Rhinippus* Werner, 1905 and the mammal name *Rhinippus* Burmeister, 1875 has to my knowledge not previously been detected. However, no replacement name is required, as the junior synonym *Barrussus* Roewer, 1928 can be substituted for *Rhinippus* Werner. Only two species are affected: *Barrussus furcichelis* Roewer, 1928, and *B. pentheri* (Werner, 1905), comb. nov.

#### Family Rhagodidae

##### Genus *Rhagodes* Pocock

#### Remarks

Although not specifically stated by Birula (1938), his treatment of *R. melanopygus* (Walter) as a member of the genus *Rhagodes* Pocock implies that he treated *Rhagodella* Roewer, 1933, of which the type species is *R. melanopygus*, as a junior synonym of *Rhagodes*. This synonymy seems entirely plausible, as the features which Roewer (1933) utilized to separate genera such as *Rhagodella* from *Rhagodes* are based upon minor differences in the spination of tarsi II-IV. Indeed, the status of the numerous other rhagodid genera erected by Roewer (1933) has never been fully assessed, and it is possible that the fate of many of these taxa will be as junior synonyms of *Rhagodes*. The synonymy of *Rhagodella* with *Rhagodes* has resulted in three new combinations, which to my knowledge have never been formally proposed:

*Rhagodes ater* (Roewer, 1933), comb. nov., *R. metatarsalis* (Roewer, 1933), comb. nov. and *R. zugmayeri* (Roewer, 1933), comb. nov.

#### Family Solpugidae

##### Genus *Enea* Roewer

#### Remarks

*Enea* Roewer, 1933 is here found to be preoccupied by *Enea* Walker, 1864, a genus of Lepidoptera. However, a new name is not needed to replace *Enea* Roewer, as the genus was synonymized with *Ferrandia* Roewer, 1933 by Lawrence (1954), which was described on the page preceding *Enea*.

##### Genus *Oparba* Roewer

#### Remarks

The synonymy of *Oparbica* Roewer, 1934 with *Oparba* Roewer, 1934 by Lawrence (1966) requires the transfer of four species to *Oparba*, resulting in new combinations: *Oparba brunnea* (Roewer, 1934), comb. nov., *O. asiatica* (Turk, 1948), comb. nov., and *O. togona* (Roewer, 1934), comb. nov.

#### Genera *Solpuga* Lichtenstein and *Zeria* Simon

#### Remarks

As discussed by Wharton (1981), Roewer (1933) erred in regarding *Solpuga lethalis* C.L. Koch, 1842 as the type species of *Solpuga* Lichtenstein, 1796, as *S. lethalis* was not one of the originally included species of *Solpuga*. Pocock (1897) appears to have been the first author to legally designate a type species for *Solpuga* when he nominated *S. chelicornis* Lichtenstein, 1796. Roewer (1933) then erected the name *Solpugopa* for *S. chelicornis* and related species, which is thus a junior objective synonym of *Solpuga* (Wharton, 1981). The species of *Solpuga* sensu Roewer (1933) can be treated as members of *Zeria* Simon, 1879, but as noted by Wharton (1981) the type species of *Zeria*, *Z. persephone* Simon, 1879 from Algeria, may not be closely related to *S. lethalis* and its relatives in southern Africa. However, until the necessary taxonomic work on the African Solpugidae is completed, I hereby transfer all species previously treated as members of *Solpuga* sensu Roewer (1933) to *Zeria*, and transfer several species from *Solpugopa* to *Solpuga*, to resolve the outstanding nomenclatural issues:

*Solpuga angolensis* (Roewer, 1933), comb. nov., *S. conservatorum* (Lawrence, 1964), comb. nov., *S. truncata* (Lawrence, 1968), comb. nov., *Zeria albistriata* (Roewer, 1933), comb. nov., *Z. angolana* (Frade, 1940), comb. nov., *Z. antelopicornis* (Lawrence, 1929), comb. nov., *Z. atra* (Roewer, 1933), comb. nov., *Z. atrisoma* (Roewer, 1933), comb. nov., *Z. boehmi* (Kraepelin, 1899), comb. nov., *Z. caffra* (Pocock,



1897), **comb. nov.**, *Z. capitulata* (Karsch, 1885), **comb. nov.**, *Z. carli* (Roewer, 1933), **comb. nov.**, *Z. celeripes* (Hirst, 1911), **comb. nov.**, *Z. davidi* (Schenkel, 1932), **comb. nov.**, *Z. farimia* (Roewer, 1933), **comb. nov.**, *Z. ferox* (Pocock, 1895), **comb. nov.**, *Z. fordi* (Hirst, 1907), **comb. nov.**, *Z. funksoni* (Birula, 1915), **comb. nov.**, *Z. fusca* (C.L. Koch, 1842), **comb. nov.**, *Z. greta* (Roewer, 1933), **comb. nov.**, *Z. kapangana* (Benoit, 1960), **comb. nov.**, *Z. keyserlingi* (Pocock, 1895), **comb. nov.**, *Z. kraepelini* (Roewer, 1933), **comb. nov.**, *Z. lawrencei spatulata* (Lawrence, 1961), **comb. nov.**, *Z. lobatula* (Roewer, 1933), **comb. nov.**, *Z. loveridgei* (Hewitt, 1925), **comb. nov.**, *Z. merope* (Simon, 1879), **comb. nov.**, *Z. meruensis* (Tullgren, 1907), **comb. nov.**, *Z. nasuta* (Karsch, 1880), **comb. nov.**, *Z. neumanni* (Kraepelin, 1903), **comb. nov.**, *Z. niassa* (Karsch, 1880), **comb. nov.**, *Z. niassa kafulica* (Hewitt, 1919), **comb. nov.**, *Z. nigrescens* (Pocock, 1895), **comb. nov.**, *Z. obscura* (Kraepelin, 1899), **comb. nov.**, *Z. paludicola* (Pocock, 1895), **comb. nov.**, *Z. parkinsoni* (Pocock, 1897), **comb. nov.**, *Z. rhodesiana* (Hirst, 1911), **comb. nov.**, *Z. sagittaria* (Pocock, 1900), **comb. nov.**, *Z. schoutedeni* (Roewer, 1954), **comb. nov.**, *Z. schweinfurthi* (Karsch, 1880), **comb. nov.**, *Z. spiralicornis* (Purcell, 1903), **comb. nov.**, *Z. spiralicornis pugilator* (Hirst, 1912), **comb. nov.**, *Z. strepsiceros* (Kraepelin, 1899), **comb. nov.**, *Z. strepsiceros nocturna* (Lawrence, 1965), **comb. nov.**, *Z. sulfuripilosa* (Roewer, 1933), **comb. nov.**, *Z. toppini* (Hirst, 1916), **comb. nov.**, *Z. toppini edentula* (Lawrence, 1937), **comb. nov.**, *Z. vansonii* (Lawrence, 1935b), **comb. nov.**, *Z. wabonica* (Roewer, 1933), **comb. nov.** and *Z. zebrina* (Pocock, 1898), **comb. nov.**

In addition, *Solpuga chelicornis* var. *rufescens* Hewitt, 1919 is a junior primary homonym of *Solpuga rufescens* C.L. Koch, 1842, which is here replaced with *Solpuga chelicornis carlkochi*, **nom. nov.** The various subspecies of *Solpuga chelicornis* are probably not valid (Wharton, 1981), and this subspecies may eventually be regarded as a synonym of *Solpuga chelicornis*.

#### Etymology

This South African subspecies is named for Carl L. Koch (1778–1857) who made a number of important contributions to the study of solifuges.

#### Genus *Solpugema* Roewer

#### Remarks

*Solpuga orangica* Lawrence, 1942 is a junior primary homonym of *Solpuga coquinae orangicus* Hewitt, 1919 and is here replaced with *Solpugema whartoni*, **nom. nov.**

#### Etymology

This species, which is known from Namibia, is named for Robert A. Wharton, in recognition of his research on Namibian solifuges.

#### Genus *Solpugiba* Roewer

#### Remarks

The synonymy of *Solpugelis* Roewer, 1934 with *Solpugiba* Roewer, 1934 by Wharton (1981) requires the transfer of *Solpugelis pictichelis* Roewer, 1934 to *Solpugiba*, resulting in a new combination: *Solpugiba pictichelis* (Roewer, 1934), **comb. nov.**

#### Order Amblypygi

#### Genus *Protophrynus* Petrunkevitch and *Sorellophrynus*, **nom. nov.**

#### Remarks

The amblypygid genus *Protophrynus* Petrunkevitch, 1913 has been found to be a junior homonym of the amphibian genus-group name *Protophrynus* Pomel, 1853, and is here replaced with the name *Sorellophrynus*, **nom. nov.** The only included species becomes *Sorellophrynus carbonarius* (Petrunkevitch, 1913), **comb. nov.**

The four recognized species of Mesozoic amblypygids are currently placed in three genera, but Dunlop (1994) suggested that *Thelyphrynus* Petrunkevitch, 1913 and *Protophrynus* may be synonyms of the oldest name *Graeophonus* Scudder, 1890. If this is confirmed by further work on the Carboniferous Amblypygi, then *Protophrynus carbonarius* becomes a junior secondary homonym of the type species of *Graeophonus*, *Libellula carbonaria* Scudder, 1876, currently *Graeophonus carbonarius* (Scudder, 1876).

#### Etymology

The generic name alludes to the Mesozoic age of the type species and to the fact that the name may eventually become a junior synonym of *Graeophonus* (*sorelle* Greek, old man with one foot in the grave; and *phryne*, Greek, a toad, a commonly used stem amongst the Amblypygi). It is masculine in gender.

#### Family Charinidae

#### Genus *Charinus* Simon

#### Remarks

The synonymy of *Tricharinus* Quintero, 1986 with *Charinus* Simon, 1892 by Weygoldt (2000) requires the transfer of the three species originally included in *Tricharinus*: *C. guianensis* (Quintero, 1986), **comb. nov.**, *C. caribensis* (Quintero, 1986), **comb. nov.** and *C. platnicki* (Quintero, 1986), **comb. nov.**

## Order Uropygi

## Family Thelyphonidae

Genus *Minbosius* Speijer

## Remarks

The genus *Minbosius* Speijer, 1933 was originally erected for *Minbosius kopsteini* Speijer, 1933 from the Indonesian island of Ambon, to which *Thelyphonus manilanus* C.L. Koch, 1843 was later added (Speijer, 1936). I here formally transfer *T. manilanus halmaherae* Kraepelin, 1897 to *Minbosius: Minbosius manilanus halmaherae* (Kraepelin, 1897), **comb. nov.**

## Order Araneae

## Family Oonopidae

Genus *Eusimonia* Dumitrescu and Georgescu

## Remarks

The spider genus *Eusimonia* Dumitrescu and Georgescu, 1987 is a junior homonym of *Eusimonia* Kraepelin, 1899 (Solifugae), and is here replaced with *Simonoonops*, **nom. nov.**<sup>2</sup> The type and sole included species, *E. orghidani* Dumitrescu and Georgescu, 1987 becomes *Simonoonops orghidani* (Dumitrescu and Georgescu, 1987), **comb. nov.**

## Family Malkaridae

Subfamily Sternoidinae, **nom. nov.**

## Remarks

The family-group name Sternodidae was proposed by Moran (1986) for an unusual group of litter dwelling spiders from Australia comprising two genera, *Sternodes* Butler, 1929 and *Carathea* Moran, 1986. Platnick and Forster (1987) reduced the Sternodinae to a subfamily within the Malkaridae. Platnick (1997) replaced the generic name *Sternodes* Butler, 1929 with the name *Sternoides* Platnick, 1997, as the former was found to be preoccupied in the Coleoptera and Hymenoptera. I here replace the name Sternodinae with Sternoidinae as required under Article 39 of the *International Code of Zoological Nomenclature*, 4th edition. The type genus is *Sternoides* Platnick, 1997.

## ACKNOWLEDGEMENTS

I wish to thank Jason Dunlop, Alexander Gromov, Rudy Jocqué, Mark Judson, Volker Mahnert,

Norman Platnick, Nikolaj Scharff, Lou Sorkin, Vladimir Ovsharenko, Paul Selden and Buz Wilson for supplying some of the literature utilized for this paper. Norman Platnick, Alexander Gromov, Robert Raven and Barbara Main made some very useful comments on the manuscript.

## REFERENCES

- Banks, N. (1900). Synopses of North-American invertebrates. IX. The scorpions, solpugids and pedipalpi. *American Naturalist* 34: 421–427.
- Benoit, P.L.G. (1960). Les Solifuges du Congo Belge et du Ruanda-Urundi. *Revue de Zoologie et de Botanique Africaines* 62: 277–288.
- Birula, A. (1890). [Materials on the solpugid fauna of Russia]. *Travaux de la Société Impériale des Naturalistes de St-Petersbourg* 21: 53–83. (in Russian)
- Birula, A. (1905a). Bemerkungen über die Ordnung der Solifugen. I–V. *Annuaire du Musée Zoologique de l'Académie Impériale des Sciences de St.-Petersbourg* 9: 391–416.
- Birula, A. (1905b). Beiträge zur Kenntnis der Solifugen-Fauna Persiens. *Bulletin de l'Académie Impériale des Sciences de St-Petersbourg* (5) 22: 247–286.
- Birula, A. (1913). Monographie der Solifugen-Gattung *Gylippus* Simon. *Archives du Musée Zoologique de l'Université de Moscou* 18: 317–400.
- Birula, A. (1915). Description of two new species of the Solifugae brought by Mr. S.N. von Wick from Soudan. *Revue Russe d'Entomologie* 15: 297–301.
- Birula, A. (1936). Ueber einige neue oder wenig bekannte Solifugen aus Mittelasien und dem Kaukasus. I u. II. *Bulletin de l'Académie des Sciences de l'URSS* 6: 1277–1280, 1281–1284.
- Birula, A. (1938). Arachnides, Ordo Solifuga. Vol. 1(3): i–vii, 1–173. *L'Académie des Sciences de l'URSS: Moscow, Leningrad.* (in Russian)
- Birula, A. (1941). [Contribution to the fauna of Solifugae of Yemen, Arabia]. *Archives du Musée Zoologique de l'Université de Moscou* 6: 245–258. (in Russian)
- Borelli, A. (1925). Missione zoologica del Dr. E. Festa in Cirenaica. XVI. Scorpioni e Solifughi. *Bollettino dei Musei di Zoologia ed Anatomia Comparata della R. Università di Torino* 39(26): 1–16.
- Brady, G.S. (1910). Die marinen Copepoden: I. Über die Copepoden der Stämme Harpacticoidea, Cyclopoida, Notodelphyoida und Caligoida. *Deutsche Südpolar-Expedition* 11: 497–594.
- Brookhart, J. (1965). Two new solpugids from Colorado and notes on other species (Arachnida: Solpugida). *Journal of the New York Entomological Society* 77: 151–155.
- Brookhart, J. (1972). Solpugids (Arachnida) in Colorado. *Southwestern Naturalist* 17: 31–41.
- Brookhart, J.O. and Muma, M.H. (1987). *Arenotherus*, a new genus of Eremobatidae (Solpugida), in the United States. Privately published by the authors.

<sup>2</sup> Despite having written several times to Dr Georgescu (in accordance with Appendix A of *International Commission on Zoological Nomenclature* (1999)), I have not yet received a reply, and the replacement name is offered herein.



- Butler, L.S.G. (1929). Studies in Victorian spiders, No. 1. *Proceedings of the Royal Society of Victoria (new series)* 42: 41–52.
- Caporiacco, L. di (1937). Scorpioni, Pedipalpi, Solifugi e Chernetidi di Somalia e Danalia. *Annali del Museo Civico di Storia Naturale di Genova* 58: 135–149.
- Caporiacco, L. di (1941). Arachnida. *Missione Biologica Sagan-Omo, Zoologia* 6: 21–175. Reale Accademia d'Italia: Roma.
- Caporiacco, L. di (1944). Su alcuni Solifugi Somali. *Monitore Zoologico Italiano* 54: 91–96.
- Caporiacco, L. di (1948). L'aracnofauna di Rodi. *Redia* 33: 27–75.
- Caporiacco, L. di (1949). Aracnidi della Colonia del Kenya raccolti da Toschi e Meneghetti negli anni 1944–1946. *Commentationes Pontificiae Academia Scientiarum* 13: 309–492.
- Delle Cave, L. and Simonetta, A.M. (1971). A tentative revision of the Daesiidae (Arachnida, Solifugae) from Ethiopia and Somalia. *Monitore Zoologico Italiano, n.s., Supplemento* 4: 37–77.
- Dumitrescu, M. and Georgescu, M. (1987). Quelques représentants de la famille Oonopidae (Araneae) du Venezuela. *Fauna hipogea y hemeidáfica de Venezuela y de otros países de América del Sur, Vol. 1*: 89–105.
- Dunlop, J.A. (1994). An Upper Carboniferous amblypygid from the Writhlington Geological Nature Reserve. *Proceedings of the Geologists' Association* 105: 245–250.
- Frade, F. (1940). Solífugos das Colónias Portuguesas (Angola, Guiné e Moçambique). *Boletim da Sociedade Portuguesa de Ciências Naturais* 13: 119–129.
- Frade, F. (1948). Escorpiões, Solífugos e Pedipalpos da Guiné Portuguesa. *Anais de Junta das Missões Geográficas e de Investigações Coloniais, Lisboa* 3(4): 5–18.
- Gromov, A.V. and Kopydkbaev, E.E. (1994). [The fauna of the scorpions and solpugids (Arachnida: Scorpiones, Solifugae) of Kazakhstan]. *Selevinia, Almaty* 2: 19–23. (in Russian)
- Hancock, J.L. (1888). Description of *Datames magna* Hancock. *Proceedings of the American Philosophical Society* 25: 107–110.
- Hewitt, J. (1919). A short survey of the Solifugae of South Africa. *Annals of the Transvaal Museum* 7: 1–76.
- Hewitt, J. (1925). Descriptions of some African Arachnida. *Records of the Albany Museum* 3: 277–299.
- Hirst, S. (1907). Descriptions of new species of African spiders and Solifugae. *Annals and Magazine of Natural History* (7) 20: 33–39.
- Hirst, S. (1910). On a new genus and species of the order Solifugae from Algeria. *Annals and Magazine of Natural History* (8) 6: 367–368.
- Hirst, S. (1911). On a collection of Arachnida and Chilopoda, made by Mr. S.A. Neave in Rhodesia, north of the Zambezi. *Memoirs and Proceedings of Manchester Literary and Philosophical Society* 56(2): 1–11.
- Hirst, S. (1912). Descriptions of new arachnids of the orders Solifugae and Pedipalpi. *Annals and Magazine of Natural History* (8) 9: 229–237.
- Hirst, S. (1916). On a new species of *Solpuga* from Zululand. *Annals of the Durban Museum* 1: 228–229.
- International Commission on Zoological Nomenclature (1999). *International Code of Zoological Nomenclature, 4th edition*. International Trust for Zoological Nomenclature: London.
- Karsch, F. (1880). Zur Kenntniss der Galeodiden. *Archiv für Naturgeschichte* 46: 228–243.
- Karsch, F. (1885). Verzeichnis der von Dr. G.A. Fischer auf der im Auftrage der geographischen Gesellschaft in Hamburg unternommenen Reise in das Massailand gesammelten Myriopoden und Arachniden. *Jahrbuch der Hamburgischen Wissenschaftlichen Anstalten* 2: 131–139.
- Koch, C.L. (1842). Systematische Uebersicht über die familie der Galeoden. *Archiv für Naturgeschichte* 8: 350–356.
- Koch, C.L. (1843). *Die Arachniden. Getreu nach der Natur Abgebildet und Beschrieben*. Vol. 10. C.H. Zeh'schen: Nürnberg.
- Kraepelin, K. (1897). Revision der Uropygi Thor. (Thelyphonidae auct.). *Abhandlungen aus dem Gebiete der Naturwissenschaften herausgegeben vom Naturwissenschaftlichen Verein in Hamburg* 15: 1–58.
- Kraepelin, K. (1899). Zur Systematik der Solifugen. *Mitteilungen aus dem Naturhistorischen Museum in Hamburg* 16: 195–258.
- Kraepelin, K. (1900). Ueber einige neue Gliederspinnen. *Abhandlungen aus dem Gebiete der Naturwissenschaften Verein, Hamburg* 16(4): 1–17.
- Kraepelin, K. (1901). Palpigradi und Solifugae. *Tierreich* 12: i–xi, 1–159.
- Kraepelin, K. (1903). Scorpione u. Solifugen Nordost-Afrikas, gesammelt 1900 und 1901 von Carlo Freiherrn von Erlanger und Oscar Neumann. *Zoologische Jahrbücher, Abtheilung für Systematik, Geographie und Biologie der Thiere* 18: 557–578.
- Kraglievich, L. (1930). Un nuevo e interesante roedor de la fauna terciaria de entre Ríos "*Caviodon (Lelongia) paranensis*" n. subgen. n. sp. *Anales de la Sociedad Científica Argentina* 110: 178–184.
- Kraus, O. (1959). Solifugen aus dem Iran (Arach.). *Senckenbergiana Biologica* 40: 93–98.
- Latreille, P.A. (1817). Galéode. *Nouvelle Dictionnaire d'Histoire Naturelle, Appliquée aux Arts, à l'Agriculture, à l'économie Rurale et Domestique, à la Médecine, etc.* Vol. 12: 368–374. Deterville: Paris.
- Lawrence, R.F. (1929). New South African Solifugae. *Annals of the South African Museum* 29: 153–179.
- Lawrence, R.F. (1935a). New South African Solifugae. *Transactions of the Royal Society of South Africa* 23: 71–90.
- Lawrence, R.F. (1935b). New species of Solifugae in the collection of the Transvaal Museum. *Annals of the Transvaal Museum* 15: 505–512.
- Lawrence, R.F. (1937). A collection of Arachnida from Zululand. *Annals of the Natal Museum* 8: 211–273.
- Lawrence, R.F. (1942). A collection of scorpions and solifuges in the Transvaal Museum, with notes on two Natal solifuges. *Annals of the Transvaal Museum* 20: 399–408.
- Lawrence, R.F. (1954). Some Solifugae in the collection of the British Museum (Natural History). *Proceedings of the Zoological Society of London* 124: 111–124.

- Lawrence, R.F. (1956). Solifugae (Chelicerata) from Afghanistan. *Videnskabelige Meddelelser fra Danske Naturhistorisk Forening i Kjøbenhavn* 118: 115–140.
- Lawrence, R.F. (1960). The Solifugae (Arachnida) of Angola. *Companhia de Diamantes de Angola, Publicações Culturais* 51: 107–128.
- Lawrence, R.F. (1961). New scorpions and solifuges from South West Africa and Angola. *Förhandlingar vid Kungliga Fysiografiska Sällskapet i Lund* 31: 147–160.
- Lawrence, R.F. (1964). New Solifugae (Arachnida) from the Kruger National Park, South Africa. *Annals and Magazine of Natural History* (13) 6: 529–535.
- Lawrence, R.F. (1965). Some new or little known Solifugae from southern Africa. *Proceedings of the Zoological Society of London* 144: 47–59.
- Lawrence, R.F. (1966). Two new Solifugae (Arachnida) from Algerian North Africa. *Bulletin du Muséum National d'Histoire Naturelle, Paris* (2) 37: 983–988.
- Lawrence, R.F. (1968). A contribution to the solifugid fauna of southern Africa (Arachnida). *Annals of the Transvaal Museum* 26: 53–77.
- Lawrence, R.F. (1972). New psammophilous Solifugae, chiefly from desert regions of the Kalahari and South West Africa. *Madoqua, series II* 1: 97–116.
- Levy, G. and Shulov, A. (1964). The Solifuga of Israel. *Israel Journal of Zoology* 13: 102–120.
- Lichtenstein, A.A.H. (1796). *Catalogus musei zoologici ditissimi Hamburgi, d. III. Februar. 1796 auctionis lege distrahendi. Sectio Tertia. Continens Insecta*. Schniebes: Hamburg.
- Lucas, H. (1849). Histoire naturelle des animaux articulés. Crustacés, Arachnides, Myriapodes et Hexapodes. In ), *Exploration Scientifique de l'Algérie Pendant les Années 1840, 1841, 1842. Sciences Physiques. Zoologie*, Vol. 2(1). Imprimerie Nationale: Paris.
- Maury, E.A. (1977). Notas sobre la sistemática y distribución geográfica de *Procleobis patagonicus* (Holmberg 1876) (Solifugae, Ammotrechidae, Saronominae). *Physis, Buenos Aires* 36: 283–293.
- Mello-Leitão, C. (1938a). Solifugos de Argentina. *Anales del Museo Argentino de Ciencias Naturales* 40: 1–32.
- Mello-Leitão, C. (1938b). Notas sobre solifugos argentinos. *Notas del Museo de La Plata* 3: 265–271.
- Moran, R.J. (1986). The Sternodidae (Araneae: Araneomorpha), a new family of spiders from eastern Australia. *Bulletin of the British Arachnological Society* 7: 87–96.
- Muma, M.H. (1951). The arachnid order Solpugida in the United States. *Bulletin of the American Museum of Natural History* 97: 35–141.
- Muma, M.H. (1963). Solpugida of the Nevada test site. *Brigham Young University Science Bulletin, Biological Series* 3(2): 1–15.
- Muma, M.H. (1970). A synoptic review of North American, Central American, and West Indian Solpugida (Arthropoda: Arachnida). *Arthropods of Florida and Neighboring Land Areas* 5: 1–62.
- Muma, M.H. (1986). New species and records of Solpugida (Arachnida) from Mexico, Central America, and the West Indies. *Novitates Arthropodae* 2(3): 1–23.
- Muma, M.H. (1989). New species and records of Solpugida (Arachnida) from the United States. .
- Olivier, A.G. (1791). Galéode, Galeodes. *Encyclopédie Méthodique. Histoire Naturelle. Insectes*, Vol. 6: 578–580. Panckoucke: Paris.
- Petrunkovitch, A. (1913). A monograph of the terrestrial Palaeozoic Arachnida of North America. *Transactions of the Connecticut Academy of Arts and Sciences* 18: 1–137.
- Platnick, N. I. (1997). *Advances in spider taxonomy 1992–1995, with redescrptions 1940–1980*. New York Entomological Society: New York.
- Platnick, N.I. and Forster, R.R. (1987). On the first American spiders of the subfamily Sternodinae (Araneae: Malkaridae). *American Museum Novitates* 2894: 1–12.
- Pocock, R.I. (1895). Notes on some of the Solifugae contained in the collection of the British Museum, with descriptions of new species. *Annals and Magazine of Natural History* (6) 16: 74–98.
- Pocock, R.I. (1897). On the genera and species of tropical African Arachnida of the order Solifugae, with notes upon the taxonomy and habits of the group. *Annals and Magazine of Natural History* (6) 20: 249–272.
- Pocock, R.I. (1898). On the scorpions, spiders, and solpugas collected by Mr. C. Steuart Betton in British East Africa. *Proceedings of the Zoological Society of London* 1898: 497–524.
- Pocock, R.I. (1899). Scorpions and spiders. In E.A. Fitzgerald (ed.), *The Highest Andes*: 356–360. Methuen and Co.: London.
- Pocock, R.I. (1900). Some new or little-known Thelyphonidae and Solifugae. *Annals and Magazine of Natural History* (7) 5: 294–306.
- Pomel, M. (1853). *Catalogue méthodique et descriptif des vertébrés fossiles découverts dans le bassin hydrographique supérieur de la Loire, et surtout dans la vallée de son affluent principal, L'Allier*. J.-B. Baillière: Paris.
- Purcell, W.F. (1903). On the scorpions, Solifugae, and a trapdoor spider, collected by Rev. Henri A. Junod, at Shilouane, near Leysdorp, in the Transvaal. *Novitates Zoologicae* 10: 303–306.
- Putnam, J.D. (1883). The Solpugidae of America. Papers of J. Duncan Putnam, arranged for publication by Herbert Osborn. *Proceedings of the Davenport Academy of Natural Sciences* 3: 249–310.
- Quintero, D., Jr (1986). Revision de la clasificación de Amblypygidos pulvinados: creación de subordenes, una nueva familia y un nuevo genero con tres nuevas especies (Arachnida: Amblypygi). In W.G. Eberhard, Y.D. Lubin and B.C. Robinson (eds), *Proceedings of the Ninth International Congress of Arachnology, Panama 1983*: 203–212. Smithsonian Institution Press: Washington D.C.
- Roewer, C.F. (1928). Zoologische Streifzüge in Attika, Morea und besonders auf der Insel Kreta. I. V. Scorpiones, Opiliones und Solifugae. *Abhandlungen herausgegeben vom Naturwissenschaftlichen Verein zu Bremen* 26: 452–460.
- Roewer, C.F. (1933). Solifugae, Palpigradi. In H.G. Bronns (ed.), *Klassen und Ordnungen des Tierreichs. 5: Arthropoda. IV: Arachnoidea*, Vol. 5(IV)(4)(2–3): 161–480. Akademische Verlagsgesellschaft M.B.H.: Leipzig.

- Roewer, C.F. (1934). Solifugae, Palpigradi. In H.G. Bronns (ed.), *Klassen und Ordnungen des Tierreichs*. 5: *Arthropoda*. IV: *Arachnoidea*, Vol. 5(IV)(4)(4-5): 481-723. Akademische Verlagsgesellschaft M.B.H.: Leipzig.
- Roewer, C.F. (1941). Solifugen 1934-1940. *Veröffentlichungen des Deutschen Kolonial Übersee-Museums, Bremen* 3: 97-192.
- Roewer, C.F. (1954). Über einige Solifugen und Pedipalpen der äthiopische Region. *Annales du Musée du Congo Belge, Sciences Zoologiques* (4) 1: 262-268.
- Roewer, C.F. (1960). Solifugen und Opilioniden, Araneae Orthognathae, Haplogynae und Entelegynae (contribution à l'étude de la faune d'Afghanistan 23). *Göteborgs Kungl. Vetenskaps- och Vitterhetssamhälles Handlingar* (6) ser. B 8(7): 1-57.
- Roewer, C.F. (1961). Einige Solifugen und Opilioniden aus der palaearctischen und äthiopischen Region. *Senckenbergiana Biologica* 42: 479-490.
- Schenkel, E. (1932). Notizen über einige Skorpione und Solifugen. *Revue Suisse de Zoologie* 39: 375-396.
- Scudder, S.H. (1876). New and interesting insects from the Carboniferous of Cape Breton. *Proceedings of the American Association for the Advancement of Science* 24B: 110-111.
- Scudder, S.H. (1890). Illustrations of the Carboniferous Arachnida of North America, of the orders Anthracomarti and Pedipalpi. *Memoirs of the Boston Society of Natural History* 4: 443-456.
- Simon, E. (1879). Essai d'une classification des Galéodes, remarques synonymiques et description d'espèces nouvelles ou mal connues. *Annales de la Société Entomologique de France* (5) 9: 93-154.
- Simon, E. (1880). Descriptions de deux nouveaux genres de l'ordre des Solifugae. *Annales de la Société Entomologique de France* (5) 10: 399-402.
- Simon, E. (1882). Viaggio ad Assab nel Mar Rosso, dei signori G. Doria ed O. Beccari con il R. Avviso "Esploratore" dal 16 Novembre 1879 al 26 Febbraio 1880. II. Étude sur les Arachnides de l'Yemen méridional. *Annali del Museo Civico di Storia Naturale di Genova* 18: 207-260.
- Speijer, E.A.M. (1933). Die Pedipalpi des Zoologischen Museums in Buitenzorg und die der Sammlung Dr. F. Kopstein. *Zoologische Mededeelingen* 16: 67-76.
- Speijer, E.A.M. (1936). Die orientalischen Pedipalpi des Zoologischen Museums der Universität Berlin. *Mitteilung aus dem Zoologischen Museum in Berlin* 21: 249-263.
- Tullgren, A. (1907). Arachnoidea. 1. Pedipalpi, Scorpiones, Solifugae, Chelonethi. *Wissenschaftliche Ergebnisse der Schwedischen Zoologischen Expedition nach dem Kilimandjaro, dem Meru und dem umgebenden Massaissteppen Deutsch-Ostafrikas 1905-1906*, Vol. 3(20): 1-15.
- Turk, F.A. (1947). On two new species of the family Galeodidae (Solifuga) from Asia. *Annals and Magazine of Natural History* (11) 14: 74-80.
- Turk, F.A. (1948). On recent additions to the collection of Solifuga belonging to the Hebrew University of Palestine. *Annals and Magazine of Natural History* (12) 1: 263-273.
- Turk, F.A. (1960). On some sundry species of solifugids in the collection of the Hebrew University of Jerusalem. *Proceedings of the Zoological Society of London* 135: 105-124.
- Vachon, M. (1950). Contribution a l'étude de l'Air (Mission L. Chopard et A. Villiers). Scorpions, Pseudoscorpions et Solifuges. *Mémoires de l'Institut Français d'Afrique Noire* 10: 93-107.
- Vázquez, I.M. and Gaviño-Rojas, R. (2000). *Eremopus acuitlapanensis*, a new species (Solifugae, Eremobatidae, Eremobatinae) from Guerrero, Mexico. *Journal of Arachnology* 28: 227-230.
- Walker, F. (1864). Catalogue of the Heterocerous lepidopterous insects collected at Sarawak, in Borneo, by Mr A.R. Wallace, with descriptions of new species. *Journal and Proceedings of the Linnean Society of London, Zoology* 7: 49-84.
- Werner, F. (1905). Skorpione und Solifugen. In: Penther, A., Zederbauer, E. *Ergebnisse einer naturwissenschaftliche Reise zum Erdschais-Dagh (Kleinasien)*. *Annalen des K. K. Naturhistorischen Hofmuseums* 20: 113-114.
- Weygoldt, P. (2000). *Whip spiders. Their biology, morphology and systematics*. Apollo Books: Stenstrup.
- Wharton, R.A. (1981). Namibian Solifugae (Arachnida). *Cimbebasia Memoir* 5: 1-87.
- Zilch, A. (1946). Katalog der Solifugen (Arach.) des Senckenberg-Museums. *Senckenbergiana* 27: 119-154.